

ABSTRACT

A reduced area imaging device is provided for use in medical or dental instruments such as an endoscope. In a first embodiment of the endoscope, connections between imaging device elements and between a video display is

5 achieved by hard-wired connections. In a second embodiment of the endoscope, wireless transmission is used for communications between imaging device components, and/or for transferring video ready signals to a video display. In one configuration of the imaging device, the image sensor is placed remote from the remaining circuitry. In another configuration, all of the

10 circuitry to include the image sensor is placed in a stacked fashion at the same location. The entire imaging device can be placed at the distal tip of an endoscope. Alternatively, the image sensor can be placed remote from the remaining circuitry according to the first configuration, and control box is used which communicates with the image sensor and is placed remotely from the

15 endoscope. Further alternatively, the imaging device can be incorporated in the housing of a standard medical camera which is adapted for use with traditional rod lens endoscopes. In any of the configurations or arrangements, the image sensor may be placed alone on a first circuit board, or timing and control circuits may be included on the first circuit board containing the image sensor.

20 The timing and control circuits and one or more video processing boards can be placed adjacent the image sensor in a tubular portion of the endoscope, in other areas within the endoscope, in the control box, or in combinations of these location.